

# DUAL SATELLITE INSTALLATION MANUAL



**SHAW** ) *DIRECT*

*100% DIGITAL SATELLITE TV*

# Welcome to Shaw Direct

Thank you for choosing Shaw Direct. We're confident you'll enjoy all that Shaw Direct has to offer. Follow the steps outlined in this manual to correctly install your system, and soon you'll be ready for the ultimate television experience. Before you begin with your installation, we'd like you to take a minute and get to know us, and get to know what we offer our valued customers.

Shaw Direct provides Canada's Best Television Experience, with over 470 channels and growing, we provide our customers with customized channel options to suit even the most discerning customers viewing needs.

We also provide 24/7/365 award winning customer support in case you have any questions regarding your Shaw Direct system or account.

Take a tour of our website at [SHAWDIRECT.CA](http://SHAWDIRECT.CA), and see for yourself how we provide Canada's Best Television Experience! Here's what you'll find:

- Customize your Channel Listings
- Check Out the Hottest Pay Per View Movies and Events

We also offer specialized accessories to enhance your Shaw Direct viewing experience, such as:

## The Phonex Easy Jack

Turn any electrical outlet in your home into a phone jack, and connect your receiver to order Pay Per View movies and events. Avoid messy cables and phone cords across the floor, and ensure you keep a continuous phone connection to your receiver. It's easy secure and reliable!



## Features Include:

- Caller ID/Call Waiting Compatible

- Built-in Surge Protection
- Eliminates the Cost and Challenge of Hard-Wiring a New Phone Jack
- Also Works with Other Devices such as Computers, Phones, and Faxes

Welcome to the Shaw Direct family! Tune into Channel 299 and 402 for Shaw Direct TV to find out more about our promotions, technical tips, movie/sports highlights, and special offers exclusive to Shaw Direct customers. Sports fans should know that we also use these channels to show you exclusive local sporting event coverage you won't see anywhere else.

# 1. Getting Started

This Shaw Direct Installation Manual provides all the information you require to install your system. The instructions are fairly simple, providing step-by-step instruction for system installation. However, it will require skills in construction, wiring and assembly to correctly complete the installation.

**Important:** We also recommend against installing the satellite dish on your roof, unless absolutely necessary. If you do choose to mount the dish on the roof, we strongly recommend consulting with a building or construction expert before installation.

**IMPORTANT:** Read this manual thoroughly before beginning installation.

**WARNING:** All satellite dish systems must be properly grounded, particularly if the dish is close to or above the roof line. Improper grounding can result in damage or serious personal injury. National, provincial and local electrical codes may require you to ground the dish directly and to insert a grounding block in the coaxial cables running from the dish to the receiver inside the building. Before beginning installation, carefully read the section on grounding the dish (see section 11).

## This installation requires you to:

- Use hand tools such as a hand drill
- Determine whether water pipes, electrical wiring or gas lines are close to the installation area
- Route coaxial cable through walls and under floors
- Use a compass, protractor and carpenter's level
- Use a ladder to climb structures
- Know your local, provincial and national grounding codes

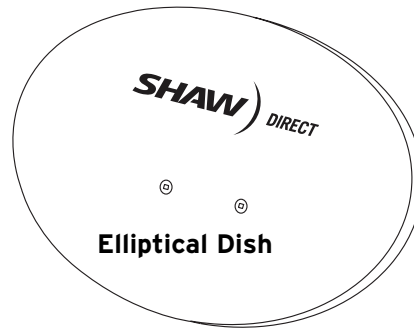
If you feel you do not have the experience to perform these tasks, contact Shaw Direct at 1.888.554.7827 for assistance.

## You'll need the following tools:

- #1 Philips Screwdriver
- 7/16 Hex Wrench, open or combination end
- Electric Drill and Bits
- Carpenter's Level
- Compass
- Protractor

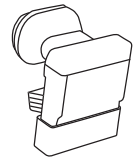
## Your satellite Shaw Direct Dish Kit contains the following components:

- Shaw Direct Elliptical Dish with dual satellite hardware

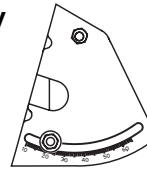


Elliptical Dish

Quad LNB



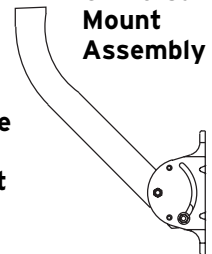
Clamp Mount Assembly



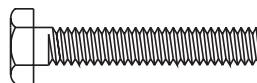
Satellite Feed Support Arm



Universal Mount Assembly



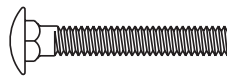
## Hardware



1/4" x 1-1/2" Long Hex Head Bolt  
(Feed Support Arm Mounting)  
1 Supplied



1/4" External Tooth Washer  
2 Supplied



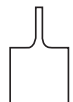
1/4" x 1-3/4" Long Carriage Head Bolt  
(Antenna Mounting Bolt - Painted Head)  
2 Supplied



1/4" Whiz Nut (Hex Head)  
5 Supplied



1/4" x 1/2" Carriage Head Bolt  
2 Supplied (Mast Adjusting Bolts)



Spacer Sleeve  
(Feed Support Arm Mounting)  
1 Supplied



Hex Head Hi/Lo Screw  
2 Supplied



1/4" Flat Washer  
3 Supplied

## Key points to remember when installing your Shaw Direct System:

- Do not drill any holes until you've confirmed the best location for the dish.
- Make sure the installation of the dish conforms to local electrical and building codes, zoning requirements and other applicable laws and regulations. If you are unsure, contact your local electrician or building inspector for assistance.
- For possible periodic removal of snow, choose a site that is easily accessible.
- Ensure there are no visible obstructions between the dish and your line of sight to the satellites. Keep in mind that trees will grow up and outward and may eventually block the signal.
- The maximum allowable length for the RG-6 coaxial cable connecting the receiver to your dish is 125 feet. Consult Shaw Direct if the cable will exceed this length.
- Use only RG-6 grade coaxial cable. Using lower grade RG-59 coaxial cable may result in excessive signal loss and poor reception. Cable grade type is indicated on the outer jacket of the cable.
- **Do not install the dish:**
  - Under power lines
  - Where it may be easily tampered with
  - Where it is exposed to high winds, during windy or stormy conditions

Shaw Direct offers a supplementary Self Install Kit. If you have not already purchased our Self Install Kit, you may do so by calling 1.888.554.7827. This kit contains everything you will need to successfully install your Shaw Direct satellite system. Please contact Shaw Direct to order or receive additional information regarding the Self Install Kit.

## 2. Mounting Locations

Your dish will typically be mounted on a solid base. To ensure your dish doesn't move in windy conditions, choose a location where it can be securely fastened. The mounting surface should be rigid and solid.

**IMPORTANT:** The Elliptical Dish has a turn radius of +/- 35 degrees. If you are mounting the dish on the side of your house, check the assembled dish and mounting pole to see if you can rotate the dish in the desired azimuth setting. If you can't rotate the dish, choose an alternate location.

### Key things to remember when choosing a mounting location:

- The mounting surface should be flat, even and in good condition.



- If you install the dish on the roof or side of your house, be sure to attach the bolts into a building stud, rafter or other solid surface.
- When mounting on the roof of your house, use an adequate/approved sealant (for your type of roofing material) around the holes where the base of the universal mount meets the mounting surface. This will prevent the roof from leaking. (Consult with a roofing expert to confirm best sealant.)

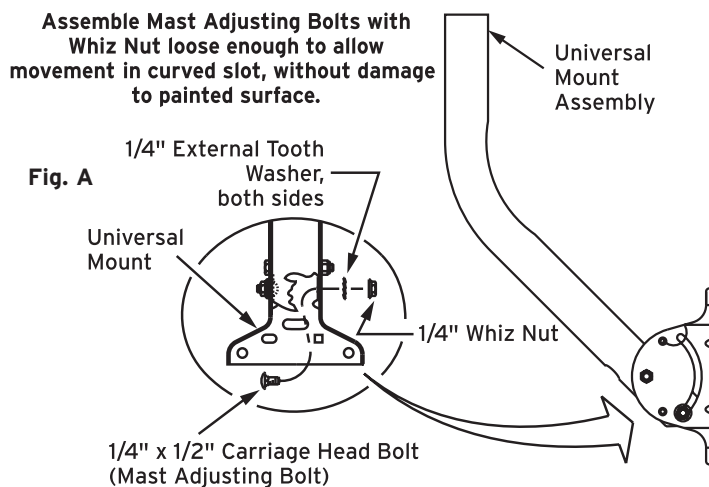
### • We do not recommend:

- Mounting the dish on a railing
- Installing the dish on aluminum or vinyl siding (these are unlikely to be structurally sound)
- Keep grounding requirements in mind (see section 11 for additional information on grounding).

## 3. Dish Assembly

**Step 1:** To avoid losing any hardware components, select a clear area on the ground for dish assembly.

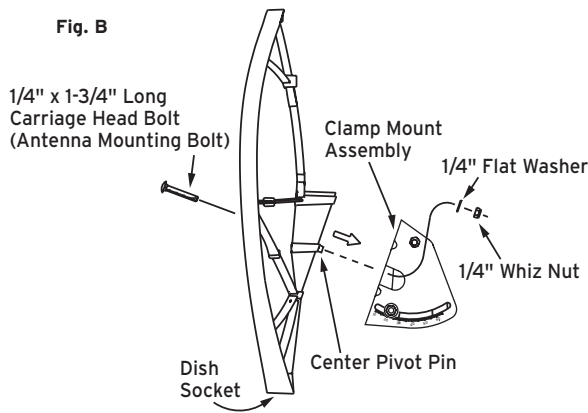
**Step 2:** On the Universal Mount, insert the (2) 1/4" X 1/2" Carriage Head Bolts (Mast Adjusting Bolts), through the mast and the curved slot of the mount. Capture with (2) 1/4" External Tooth Washers and (2) 1/4" Whiz Nuts. Tighten the bolts just enough to hold in place (see Figure A).



**Step 3:** Attach the dish to the Clamp Mount Assembly using the (2) 1/4" X 1-3/4" Long Carriage Head Bolts (Antenna Mounting Bolts-Painted Head), (2) 1/4 Flat Washers and (2) 1/4" Whiz Nuts. Ensure the Center Pivot Pin on the Clamp Mount Assembly is inserted in the mating hole of the Dish (see Figure B).

**Note:** We do not recommend mounting the dish on the roof unless absolutely necessary. We also recommend that you consult a building expert for future tips on preventing roof leakage.

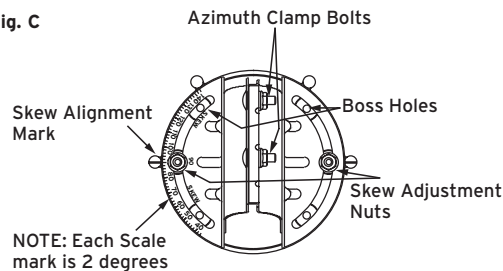
Fig. B



Before tightening the bolts, adjust the skew alignment to the 90 degree mark on the Clamp Mount Assembly (see Figure C). Tighten the bolts just enough to hold in place. You'll have to make further adjustments to this setting later.

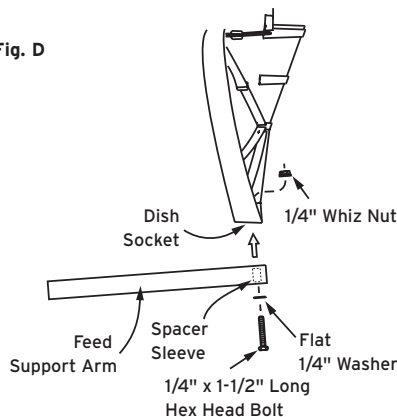
**TIP:** Initially setting the skew to 90 degrees will make it easier to aim the dish.

Fig. C



**Step 5:** Attach the Feed Support Arm to the dish using the (1) 1/4" X 1-1/2" Hex Head Bolt (1), Spacer Sleeve, (1) 1/4" Flat Washer and (1) 1/4" Whiz Nut, making sure the Feed Support Arm and Spacer Sleeve are positioned as shown in Figure D. Position the 2 plastic cable clips packaged with the LNB around support arm to secure the coax cable(s) from the LNB to receiver.

Fig. D



✓ You've just finished assembling the dish.

## 4. Locating the Satellite

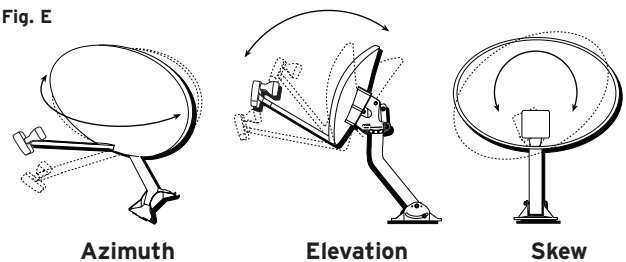
**Step 1:** Determine the direction in which to point the dish. The primary satellite SAT A is located at 107.3 west longitude; the secondary satellite (SAT B) will be located at 111.1 west longitude.

**IMPORTANT:** For dual satellite dish installation, use the SAT B Azimuth, Elevation and Skew listings in the Dual Satellite Locator Chart at the back of this manual for the city nearest your location to point the dish in the general direction of the Anik satellites.

Write them here:

Azimuth	Elevation	Skew
SAT A: _____	SAT A: _____	SAT A: _____
SAT B: _____	SAT B: _____	SAT B: _____

Fig. E



**Step 2:** Use a compass to determine roughly where to point your dish.

**Step 3:** Choose a dish installation location with a clear line of sight to both SAT B and SAT A based on the settings you recorded earlier. There should be no trees, buildings or other obstructions between the dish and the satellite. Do you have a clear line of sight to both SAT A and SAT B?

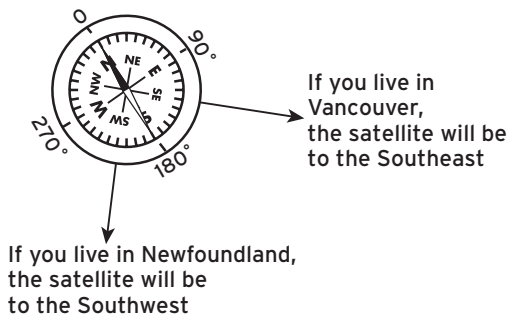
- If YES, go to Step 4 and continue with the installation.
- If NO, find another location.
- If you're not sure, contact Shaw Direct for more information.

**NOTE:** To ensure an accurate compass reading, stay away from large metal objects. To double-check accuracy, take multiple readings several feet apart.

**Step 4:** At the dish install site, hold a compass level and still in the palm of your hand. When the needle stops rotating (dark half of the needle always points north), slowly rotate the body of the compass so that the "N" marking is aligned with the dark half of the needle. Locate the tick mark on the compass edge corresponding to the **SAT B** azimuth number you wrote down earlier (see Figure F). This is the direction in which to point your dish to receive both SAT A and SAT B signals.

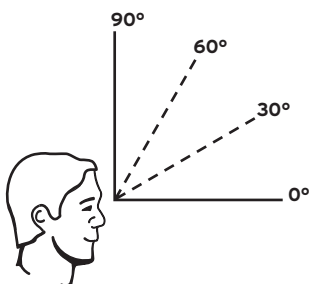
**TIP:** Use a stick or other object to mark the correct azimuth direction.

Fig. F



**Step 5:** Estimate the **SAT B** elevation (angle) setting you recorded earlier, using a protractor if needed (see Figure G). Check any obstructions at that elevation. If there are obstructions, then select an alternate location for the dish.

Fig. G



0 degrees is straight toward the horizon and 90 degrees is straight upward.

**IMPORTANT:** When evaluating the install location, make sure there are no trees, branches or objects visually obstructing the dish and the general direction of the satellite. Also, keep in mind that trees grow up and outward and may eventually block the signal.

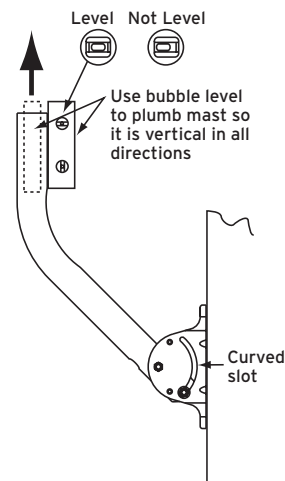
✓ You have just completed locating a site for your dish.

## 5. Attaching the Dish

**Step 1:** Ensure mast is plumb before drilling any holes. Hold the Universal Mount in place on the mounting area. Use a carpenter's level to plumb the antenna mast's straight section. If the bubble levels (horizontal and vertical) are not centered, rotate the mast (in the curved slot) until it is plumb. Then lock it in place by securely tightening the Mast Adjusting Bolts (see Figure H).

**IMPORTANT:** Alignment of the dish will be difficult if the mast is not plumb.

Fig. H

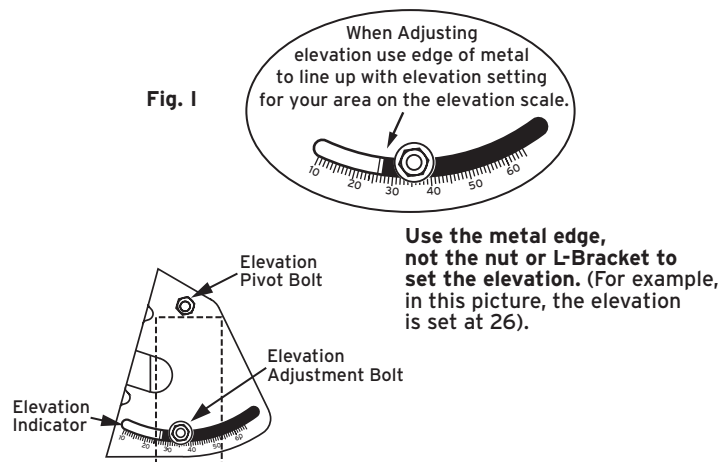


**Step 2:** Drill holes in the structure on which you are mounting the dish to match the holes in the base of the Universal Mount.

**Step 3:** Secure the Universal Mount with appropriate surface screws. Check the mount for movement. An improperly secured mount will affect dish performance.

**Step 4:** Slide the Dish/Clamp Mount Assembly onto the mast by loosening the (2) Azimuth Clamp Bolts (see Figure C) and the Elevation Pivot Bolt just enough to slide the assembly until it makes contact with the Elevation Pivot Bolt (see Figure I). Tighten the Elevation Pivot Bolt just enough to hold it in place on the mast.

Fig. I

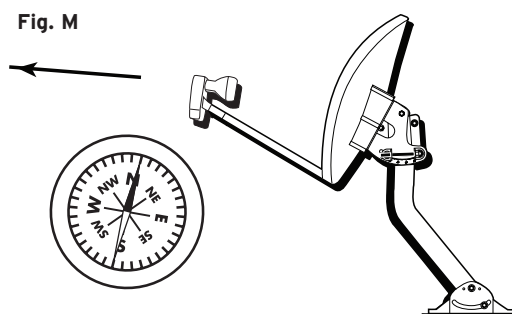


**Step 5:** Loosen the Elevation Adjustment Bolt 1/3 turn from tight on either side of the Clamp Mount Assembly. Adjust the Clamp Mount Assembly to the edge of the white indicator line per the **SAT B** elevation setting you recorded earlier. Tighten the Elevation Adjustment Bolt (see Figure I).



**Step 6:** Attach the Quad Satellite LNB/Feedhorn Clamp Assembly to the Feed Support Arm. Loosen the Feed Arm screw enough to allow the clamp to fit snugly into the Feed Support Arm. Securely tighten the Feed Arm screw.

**Step 7:** Using your compass, point the LNB in the direction corresponding to the **SAT B** azimuth setting (see Figure M). Draw a vertical mark overlapping the Clamp Mount Assembly and the mast. This mark will provide you with the approximate satellite location reference point when you're ready to tune to the satellite.



**Step 8:** Loosen the Skew Adjustment Bolts on either side of the Clamp Mount Assembly. Adjust the Skew Alignment Mark with the scale indicator to the **SAT B** skew setting you recorded earlier. Finally, lock it in place by securely tightening the Skew Adjustment Bolts.

**IMPORTANT:** Do not make any further adjustments to the Skew Setting from this point onward.

**Step 9:** After making the permanent skew adjustment, install the (2) Hex Head Hi/Lo Screws in the dish boss holes (see Figure C). Four boss holes are available but you'll only need to use two (the other two may be obstructed depending on the skew setting). Do not over tighten Hi/Lo Screws.

✓ You have just finished attaching the Dish to the Universal Mount.

## 6. Connecting Receiver and Dish

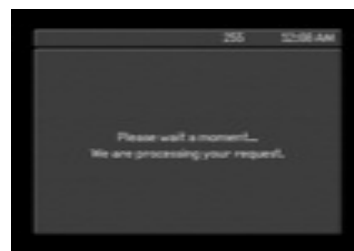
You are now at the point in the installation where one of the output ports of the QUAD LNBF needs to be connected to the satellite input connector of the Motorola DSR satellite receiver. Refer to the Installation Section of the Motorola User Guide and follow the instructions on how to connect the cable from the satellite dish to the satellite input terminal on the satellite receiver's back panel and how to connect the satellite receiver to your TV set. To view the receiver's installer menu you must connect the receiver to a TV set to show you a relative scaled signal level meter that will assist you to align the dish to maximum signal strength for your location.

1. Connect the coaxial RG6U cable provided with the install kit to one of the ports of the QUAD LNBF and connect the other end of the coaxial cable to the satellite receiver input connector. To make the dish alignment easier, suggest you locate receiver and TV at an electrical outlet close to where the dish is installed. Unless you can view the signal level on the TV screen from where the dish is being aligned, you will

require an assistant to monitor the signal level reading on the TV as you align the dish for maximum signal.

2. When receiver is first powered up, if receiver is tuned to channel 255 (factory default channel on receiver models DSR205 and DSR315), set receiver to channel 284 prior to starting dish alignment. Otherwise, if receiver is set to channel 299 (factory default channel for new DSR5xx series, DSR207/209, DSR317/319), change channel to 299 prior to starting dish alignment.

For DSR205 and DSR315 receivers you should see the following displayed on the TV when you first turn receiver on. Using remote tune receiver to ch 284 to align the dish.



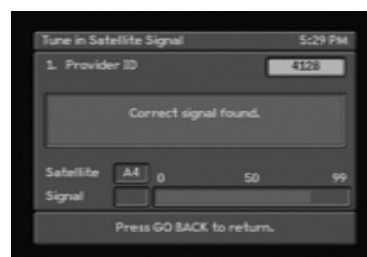
For new DSR505, DSR530, DSR207/209 and DSR317/319 you should see the following displayed on your TV when you first turn receiver on. Receiver should be tuned to channel 299.



3. Once dish has been connected to the receiver and receiver connected to the TV, follow the steps in the Motorola User Guide to access the installer menu.

To access this menu for DSR205 and DSR315 model receivers, using remote

1. Press Options,
2. Press 6 System Setup
3. Press 3 Installation settings
4. Press 1 Tune in Satellite Signal

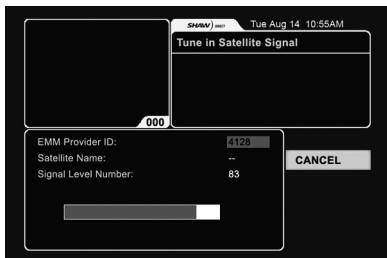


Installer Menu for Motorola DSR205, DSR315 and DSR405 model series receiver.

Position yellow cursor (using navigator keys on the remote control) on the Provider ID and enter 4128 from the keypad

To access this menu for DSR5xx, DSR207/209 and DSR317/319 model receivers, using remote

1. Press Options,
2. Press 6 System Setup
3. Press 4 System Settings
3. Press 3 Installation Settings
4. Press 1 Tune in Satellite Signal



Installer menu for DSR5xx, DSR207/209 and DSR317/319 model series receiver.

Position yellow cursor (using navigator keys on the remote control) on EMM Provider ID and enter 4128 from the keypad

Use the above illustrated installer menu to align the dish for maximum signal strength. You should have the assistance of a second person to monitor the television screen while you complete the adjustments to the satellite dish. As you align the dish for optimum signal strength, the signal level bar will increase in length from left to right and will change colour from red (no signal) to yellow (marginal signal) to green (good signal). Continue to align the dish until you achieve maximum strength. Under clear sky conditions and depending on your location, you should be able to achieve a signal strength of between 80 and 90%. In addition to the visual signal strength indicator, the receiver also emits an audio beeping that will increase in speed as signal strength increases and become a monotone once you have aligned the dish to the satellite and achieved approximately 50% signal strength. When audio beep becomes monotone, the front panel signal LED should change from Red to Green, indicating signal lock on the satellite.

### Aligning Dish To Acquire Shaw Direct Signal

With receiver on and your assistant ready to monitor signal strength on the installer menu displayed on the TV, you are now ready to make adjustments to the dish to acquire the Shaw Direct satellite signal.

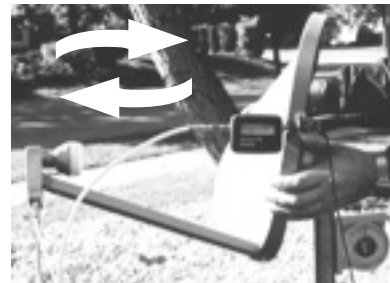
1. Refer to the compass, elevation and skew settings for your location that you recorded on Page 13.
2. For initial alignment, set the skew to 90 degrees. Skew will be readjusted to your specific location setting once you acquire the Shaw Direct satellite signal. TIP: it is easier to locate satellite signal with skew set to 90 degrees.
3. Check that the dish elevation is set to the elevation setting listed for your area.

4. Draw a reference mark on the dish clamp and pipe mast as a starting point before you make any adjustments to the dish.

5. Standing behind the dish, using both hands, grab the dish on each side and slowly move dish in very small increments to the east (or west) several degrees while your assistant observes the TV installation menu for increase in signal strength.

6. As you start to get indication of increasing signal make a second reference mark on the dish clamp and pipe mast to serve as a point where signal strength increased.

7. As you move dish past the point of maximum signal strength, move dish back in the opposite direction until you achieve maximum signal.



8. Tighten the dish clamp screws.

9. Now make small adjustments to the elevation of the dish to see if you can further improve on the signal strength. Loosen the Elevation Adjustment Bolts and make slight adjustments (1/2 degree increments) in the elevation, finding the maximum signal strength. When you've located the maximum signal strength possible, securely tighten all bolts.

10. As a last step, adjust the skew of the dish according to the skew setting you recorded for the location where you are installing the dish. Again, make small adjustments as your assistant monitors the signal strength. When you have reached maximum signal strength tighten the screw to lock down the skew setting.

**NOTE** do not be discouraged if you do not acquire signal on your first attempt. Be patient and try again. Recheck the pipe mast for true vertical 90 degrees. Once you acquire signal, you may need to make very small adjustments to the dish compass heading (azimuth), elevation and skew settings to maximize signal strength to between 80 and 90% as displayed on the installer menu.

### SIGNAL VERIFICATION

The front panel of the satellite receiver will indicate if the correct Shaw Direct signal is being received. On the satellite receiver, beside the ON/OFF power button, observe the LED satellite signal status indicator light. If this LED light is GREEN it indicates receiver is tuned to valid channel and has acquired the correct Shaw Direct satellite signal.

You are ready to proceed to the next step.



If this LED light is RED it indicates NO SIGNAL is being received by the satellite receiver. The dish is not properly aligned to receive the Shaw Direct satellite signal.

### Authorizing Receiver for Service

If your receiver installer menu displays signal strength of between 80 and 90% and the satellite icon LED signal indicator on the receiver front panel is green, you have successfully aligned the dish to the Shaw Direct satellite. Congratulations!

You are now ready to call Shaw Direct 1.888.554.7827 to authorize your receiver for programming. Before calling record the receiver SN (serial number) and receiver UA (unit address) from the bar code label on the back panel of the receiver or from the bar code label that is applied to the receiver's shipping carton. Record these numbers below for future reference

SN (Serial Number, 16 digits) \_\_\_\_\_

UA (Unit Address),

0 0 0 - 0 \_ \_ \_ \_ - \_ \_ \_ \_ - \_ \_ \_ \_

## 8. Fine Tuning

**Step 1:** Keep the Tune in Satellite Signal box on-screen. Tune to channel 299 or 284.

### Fine tuning the Azimuth:

**Step 2:** After the receiver downloads the channel map, move the dish back and forth slightly, about a millimeter to attempt to acquire the highest reading possible on the signal strength meter.

**Step 3:** Once you have found the maximum signal strength, lock the azimuth rotation position in place by tightening the Azimuth Clamp Bolts (see Figure C).

**NOTE:** Fine tuning to a high signal strength reduces signal interference in adverse weather conditions. Although the maximum possible signal strength is 99, you will most likely not reach this level.

### Fine tuning the Elevation:

**Step 4:** Loosen the Elevation Adjustment Bolts and make slight adjustments (1/2 degree increments) in the elevation, finding the maximum signal strength, as you did in the azimuth tuning process. When you've located the highest signal possible, securely tighten all bolts.

**Step 5:** Repeat steps 2-4 to obtain the highest reading possible on the signal strength meter.

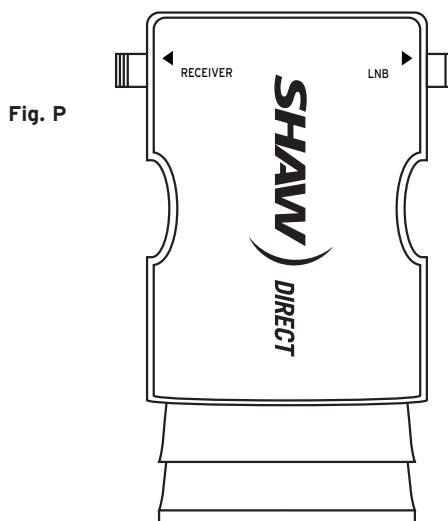
**Step 6:** If you've purchased a second receiver, connect a second coaxial cable to the SATELLITE IN terminal of the second receiver.

**Step 7:** Once connected, allow 5 minutes for the channel map to download. Confirm the signal strength by checking the on-screen Tune in Satellite Signal box (see Section 7).

✓ **You have just completed Fine Tuning.**

**Skip ahead to the Getting Activated section.**

## 9. Alternate Tuning Method



You may prefer to locate the satellite using a SF-100 Satellite Finder (see Figure P), a standalone satellite signal finding meter which can be purchased separately from Shaw Direct or your Shaw Direct retailer.

**Step 1:** Connect a short coaxial cable from the LNB terminal on the Satellite Finder to the Quad LNB. Connect the receiver terminal on the meter to a coaxial cable, which in turn connects to the SAT IN port on the Shaw Direct receiver.

**Step 2:** For model DSR205 and DSR315 satellite receivers set receiver to channel 284. For model DSR5XX series and DSR207/209 and DSR317/319 receivers set receiver to channel 299. Note, for satellite finder and LNB to function, they must be connected to a satellite receiver, plugged in and turned on.

**Step 3:** Adjust the dish as closely as possible to the elevation and azimuth settings you recorded earlier.

**Step 4:** Move the dish azimuth rotation very slightly to the right of the reference mark you drew earlier.

**Step 5:** Slowly rotate the dish back toward the reference mark and listen for pitch changes in the audible tone. If your elevation is set correctly, you should hear two major pitch changes as it picks up satellite signals. A weak first change of pitch may be the wrong satellite. Continue rotating the dish until the second major deflection, which will be SAT A (107.3), your intended target.

**Step 6:** When you have located SAT A, move the dish slightly to the right and left of the mark until you've maximized the signal. Then tighten the Azimuth Clamp Bolts. Verify you've located the correct satellite (see Section 7, Step 8).

**Step 7:** While listening to the meter, apply gentle pressure to the top of the dish to move the dish - first slightly downward, then upward to see if you can increase the signal strength further. Carefully adjust the elevation until you've maximized the signal. Tighten the Elevation Adjustment Bolts.

**Step 8:** Repeat Steps 2-4 described in Fine Tuning (Section 8) to obtain the highest reading possible on the signal strength meter.

**Step 9:** The dish should now be peaked to its maximum. Remove the Satellite Finder and plug the LNB directly into the receiver. Confirm the signal strength by checking the on-screen Tune in Satellite Signal box as described in the previous section.

✓ **Your system is now fine tuned and ready for activation.**

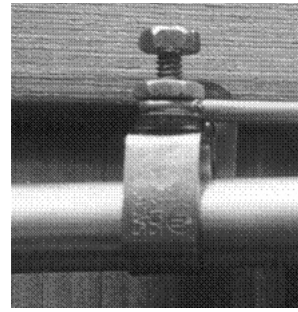
## 10. Grounding the Coaxial Cable

The Shaw Direct dish kit includes the following items to ground the outdoor coaxial cable

- Coax cable connector Grounding Block
- Grounding Wire
- Grounding Clamp

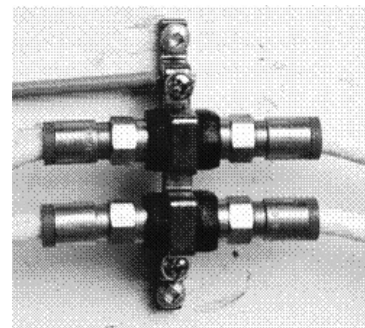
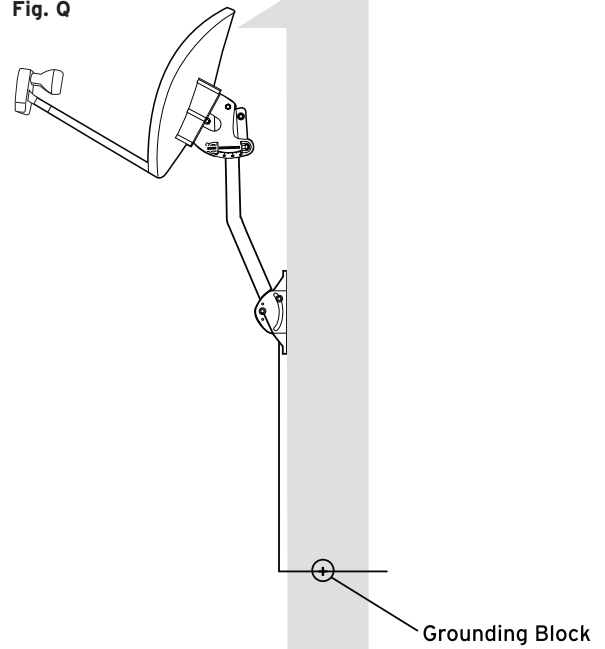
Outdoor coaxial cable that may be subject to static discharge or contact with electrical wiring, must be grounded through a grounding block located as close as possible to the cable entry point.

- Run the Grounding Wire for the coaxial cable from the Grounding Block connector to a cold water pipe nearest the cable entry point.
- Wrap copper grounding strap around cold water pipe. Tighten strap using bolt and secure the ground wire under the binding post nut as illustrated below



**IMPORTANT :** For more information on grounding refer to the receiver's User Guide included with your Shaw Direct system.

Fig. Q



Ground block (shown with 2 coax cable feeds And ground wire secured to binding post,)

# 11. Troubleshooting

## **Problem #1: I'm having trouble finding the satellite signal.**

### **Try each of the following:**

- The cable can be plugged into any of the 4 available ports on the quad LNB, but must be plugged into the SAT IN port on the Shaw Direct receiver.
- Make sure all cables are secure and re-verify your azimuth, elevation and skew setting for your location. Make sure the mast's straight section is plumb.
- Adjust the elevation by +1 degree from the setting you recorder earlier and repeat the steps in "Tuning to the Satellite".
- Adjust the elevation by -1 degree from your original setting you recorder earlier and repeat the steps in "Tuning to the Satellite".
- Ensure cables are connected properly at the grounding block.

## **Problem #2: I can't change channels.**

### **Try each of the following:**

- Power cycle the receiver by unplugging it, waiting for 30 seconds, and plugging it back into the AC outlet. Turn on the receiver and try selecting channel 284 or 299 again with your remote.
- If you are still unable to select 284 or 299, consult with Shaw Direct.

If you still can't select or acquire signal on 284 or 299 and the digits A4 do not appear in the Satellite Box in the Tune in Satellite Signal screen, call us at 1.888.554.7827 to reactivate your system.

# Satellite Locator Chart

Satellite Look angles are listed for both the 107.3W deg & 111.1W deg satellites. Use the settings for SAT B for dual satellite dish aiming. The reception of satellite signals in areas with a dish elevation less than 12 degrees may not be possible. Consult with your Shaw Direct retailer in your area. All information is listed in degrees.

Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
<b>Newfoundland</b>						
Bonavista	264	14.4	126	267	12.1	127
Cartwright	262	13.8	120	265	11.9	121
Corner Brook	260	17	124	263	14.8	125
Gander	263	15	125	266	12.8	126
Grand Falls	262	15.7	125	265	13.5	126
Hebron	259	13.6	114	262	12	115
Indian Harbour	262	13.6	119	265	11.7	120
Labrador City	251	19.1	116	254	17.3	118
Nain	258	14.4	116	262	12.7	117
North West River	259	15.5	119	262	13.6	120
Nutak	259	13.8	115	262	12.2	116
Placentia	263	15.5	127	266	13.2	128
Port aux Basques	258	18.5	125	262	16.2	126
Rigolet	261	14.3	119	264	12.4	120
Schefferville	251	17.8	115	255	16.1	116
St. Anthony	262	14.4	122	266	12.3	124
St. John's	264	14.6	127	267	12.3	128
Trepassey	263	15.4	128	267	13.1	129
Wabush City	251	19	116	254	17.2	118

<b>Nova Scotia</b>						
Bridgewater	252	23.7	125	256	21.3	127
Cape Breton Is.	256	20.5	125	260	18.2	127
Chesterfield In.	208	17.5	98	212	16.9	100
Dartmouth	254	22.9	125	257	20.6	127
Freeport	250	24.8	124	254	22.5	126
Mulgrave	256	21	125	259	18.6	127
Port Hawkesbury	256	21	125	260	18.6	127
Port Maitland	250	24.9	125	254	22.5	127
Sable Is.	258	21.1	128	261	18.6	129
Shelburne	251	24.6	125	255	22.2	127
Sydney	257	19.9	125	261	17.6	127
Truro	254	22.3	125	257	20	126
Wedgeport	250	25	125	254	22.6	127
Yarmouth	250	25	125	254	22.7	127

<b>Prince Edward Island</b>						
Charlottetown	254	21.7	124	258	19.4	126

<b>New Brunswick</b>						
Bath	248	24	122	252	21.9	123
Bathurst	251	22.2	122	255	20.1	123
Chatham	251	22.5	122	255	20.3	124
Dalhousie	250	22.3	121	254	20.2	123
Edmundston	247	23.8	120	251	21.7	122
Fredericton	250	23.9	123	253	21.7	124
Grand Manan Is.	249	24.9	124	253	22.6	126
Hartland	248	24.1	122	252	22	124
Kedgwick	249	23.1	121	252	21	123

Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Moncton	252	22.7	123	256	20.5	125
Napadogan	249	23.8	122	253	21.6	124
Newcastle	251	22.6	122	255	20.4	124
Oromocto	250	23.9	123	253	21.6	125
Plaster Rock	249	23.6	121	252	21.5	123
St. John	250	24	123	254	21.7	125

<b>Quebec</b>						
Alma	242	24.7	118	246	22.7	120
Amos	231	27.6	114	235	25.9	116
Anticosti	254	19.6	121	258	17.5	123
Asbestos	242	26.9	120	246	24.9	122
Baie Comeau	248	22.4	119	251	20.4	121
Baie St.Paul	244	24.9	119	248	22.9	121
Asbestos	242	26.9	120	246	24.9	122
Beattyville	232	26.9	114	237	25.2	116
Cap-de-la-Madeleine	241	26.8	119	245	24.7	121
Charlesbourg	243	25.7	119	247	23.7	121
Chibougamau	238	24.9	115	242	23.1	117
Chicoutimi	243	24.4	118	247	22.5	120
Cowansville	240	27.8	120	244	25.7	122
Dolbeau	241	24.7	117	245	22.8	119
Donnacona	242	26.1	119	246	24.1	121
Dosquet	242	26.2	119	246	24.1	121
Drummondville	241	27.1	119	245	25.1	121
Eastmain	231	24.5	111	235	23	113
Festubert	240	26.2	118	244	24.2	120
Fort Coulonge	233	29.3	117	237	27.4	119
Gagnon	248	20.4	117	252	18.6	118
Gaspe	253	20.7	121	256	18.6	123
Gatineau	235	29.1	118	239	27.1	120
Granby	240	27.6	120	244	25.6	122
Grand Mere	241	25.1	117	245	23.2	119
Hauterive	248	22.5	119	251	20.5	121
Hull	235	29.1	118	239	27.2	120
Inukjuak	235	19	107	239	17.8	109
Ivujivik	240	15.4	105	244	14.4	106
Joliette	239	27.5	119	243	25.5	121
Kuujuaq	252	15.8	112	256	14.4	113
Kuujuarapik	234	21.5	109	238	20.1	111
La Sarre	228	27.8	113	233	26.2	115
La Tuque	240	26.1	118	244	24.1	120
Levis	243	25.7	119	247	23.7	121
Madeleine	256	20.1	124	259	17.8	125
Malartic	230	28	114	235	26.2	116
Maniwaki	235	28.5	117	239	26.6	119
Matagami	232	26.5	113	236	24.8	115
Matane	249	22.3	120	252	20.3	121
Mingan	253	19.5	120	257	17.5	122
Miquelon	234	26.2	114	238	24.5	116
Mistassini	241	24.6	117	245	22.8	119
Monet	235	26.8	115	239	25	118
Mont Laurier	235	28.1	117	239	26.2	119
Mont Louis	251	21.1	120	255	19.1	122
Montmagny	244	25.3	120	248	23.2	122

Town/City	Satellite 'A'			Satellite 'B'			Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew		Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Montreal	239	28	119	243	26	121	Brampton	227	32.6	116	232	30.7	119
Mont Joli	247	22.9	119	251	20.9	121	Brockville	235	29.8	118	239	27.8	121
Natashquan	256	18.4	121	260	16.3	123	Burlington	227	32.9	116	232	31	119
Noranda	229	28.2	113	233	26.5	116	Carleton Place	234	29.6	117	238	27.6	120
Parent	237	26.6	116	241	24.7	119	Chapleau	220	30.4	110	224	28.9	113
Paspebiac	251	21.7	121	255	19.6	123	Chatham	223	34.8	115	227	33	118
Pointe aux Anglais	249	21.6	119	253	19.6	121	Cobalt	227	29.3	113	232	27.6	116
Pointe-aux-Tremble	239	27.8	119	243	25.8	121	Cobourg	230	31.6	117	235	29.6	120
Port Cartier	250	21.2	119	253	19.2	121	Cochrane	225	28.3	111	229	26.8	114
Quaqtaq	253	14.1	109	256	12.8	110	Collingwood	226	32.1	115	231	30.2	118
Quebec	243	25.8	119	247	23.7	121	Cornwall	237	29	119	241	26.9	121
Rimouski	247	23.1	119	251	21.1	121	Dalton	218	30.3	110	223	28.8	112
Riviere-du-Loup	245	24.1	119	249	22.1	121	Deep River	232	29.4	116	236	27.6	118
RivierePentecote	249	21.5	119	253	19.5	121	Dryden	198	31.1	102	203	30.3	105
Roberval	241	25	117	245	23.1	119	Elliot Lake	221	31.3	112	226	29.7	115
Rouyn	229	28.2	113	233	26.5	116	Emsdale	228	30.7	115	232	28.9	118
Salluit	244	15	106	248	14	107	English River	202	31.4	104	207	30.3	107
Senneterre	232	27.3	114	236	25.6	117	Espanola	223	31.2	113	227	29.5	115
Sept Iles	250	20.8	119	254	18.8	121	Foleyet	222	29.8	111	226	28.2	114
Shawinigan	240	26.7	119	244	24.7	121	Fort Albany	224	25.6	109	229	24.3	111
Sheldrake	252	20	120	256	18	121	Fort Frances	197	32.6	102	202	31.6	105
Sherbrooke	242	27.2	120	246	25.1	122	Fort Severn	212	23.8	103	216	22.9	105
Sorel	240	27.3	119	244	25.3	121	Gananoque	234	30.2	118	238	28.2	121
St Paul du Nord	246	23.5	119	250	21.5	121	Geraldton	212	29.8	107	216	28.5	109
St. Agathe-des-Monts	238	27.9	118	242	26	120	Gilmour	231	30.6	117	236	28.7	119
St. Agapit	242	26	119	246	24	121	Goderich	223	33.4	115	228	31.6	117
St. Anne de Beaupre	243	25.5	119	247	23.4	121	Gogama	223	29.9	112	228	28.3	114
St. Augustin	259	16.1	121	263	14.1	123	Gravenhurst	229	31.1	116	233	29.3	118
St. Boniface	188	32	99	193	31.3	102	Guelph	226	32.9	116	231	31	119
St. Eloi	246	23.8	119	250	21.8	121	Haliburton	231	30.6	116	235	28.7	119
St. Hyacinthe	240	27.6	119	244	25.5	121	Hamilton	227	33	116	232	31.1	119
St. Jean	239	28	119	243	25.9	122	Hanover	225	32.7	115	229	30.9	118
St. Jerome	238	28	118	242	26	121	Hearst	219	28.7	109	224	27.3	112
St. Jean de Matha	239	27.4	118	243	25.4	121	Hornepayne	217	29.5	108	221	28.2	111
St. Laurent	239	28	119	243	26	121	Huntsville	228	30.9	115	233	29.1	118
St. Pacome	245	24.7	119	249	22.6	121	Ignace	201	31.4	103	205	30.3	106
St. Pascal	245	24.5	119	249	22.4	121	Ingersoll	225	33.7	116	230	31.8	119
St. Simeon	245	24.3	119	249	22.3	121	Iroquois Falls	225	28.4	112	230	26.9	114
St. Stephen	249	24.8	123	252	22.5	125	Kapuskasing	222	28.5	110	226	27.1	113
Tadoussac	245	24	119	249	22	121	Kenora	194	31.6	101	199	30.7	104
Trois-Rivieres	241	26.8	119	245	24.8	121	Kincardine	223	33	114	228	31.2	117
Val d'Or	231	27.8	114	235	26.1	116	Kingston	234	30.5	118	238	28.5	121
Valleyfield	238	28.5	119	242	26.4	121	Kirkland Lake	227	28.7	113	231	27.1	115
Vandry	239	26.1	117	243	24.2	119	Kitchener	226	33.1	116	230	31.2	119
Verdun	239	28	119	243	26	121	Lindsay	229	31.5	116	234	29.6	119
Victoriaville	242	26.7	119	246	24.6	122	Little Current	223	31.5	113	227	29.8	115
Waskaganish	230	25.3	111	234	23.8	113	London	224	33.9	115	229	32	118
Wemindji	231	24	110	235	22.5	112	Longlac	213	29.5	107	218	28.3	110
Windsor	241	27.1	120	245	25	122	Lynx	214	29.1	107	218	27.8	110
<b>Ontario</b>							Macdiarmid	209	30.4	106	214	29.2	109
Apsley	231	30.8	116	235	28.9	119	Madoc	232	30.8	117	236	28.8	120
Arnprior	234	29.4	117	238	27.5	120	Magog	241	27.4	120	245	25.3	122
Bancroft	231	30.5	116	235	28.6	119	Manitoulin I.	221	31.9	112	226	30.3	115
Barrie	227	31.9	116	232	30	118	Matachewan	225	29.2	112	230	27.6	115
Belleville	232	31	117	236	29	120	Mattawa	229	29.8	115	234	28	117
Blind River	220	31.6	112	225	30	115	Mattice	220	28.7	109	224	27.2	112
Bracebridge	228	31.2	115	232	29.3	118							
Bradford	228	32.1	116	232	30.2	119							



Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Mekatina	218	31.4	110	223	29.9	113
Michipicoten	216	30.8	109	221	29.4	112
Midland	227	31.7	115	231	29.9	118
Milne Inlet	259	7.1	98	263	6.6	99
Robert	215	30.4	108	219	29	111
Moosonee	226	26.2	110	230	24.7	112
Nakina	212	29.2	107	217	28	109
New Liskeard	227	29.2	113	232	27.5	116
Newcastle	230	31.8	117	234	29.9	119
Nipigon	209	30.9	106	213	29.7	109
North Bay	228	30.1	114	232	28.4	117
Oakville	227	32.7	116	232	30.8	119
Oba	218	29.5	109	223	28.1	112
Opasatika	221	28.6	110	225	27.1	112
Orillia	228	31.6	116	232	29.7	118
Oshawa	229	31.9	117	233	30	119
Ottawa	235	29.1	118	239	27.2	120
Ottawa Is.	233	18.3	105	237	17.2	107
Oulmet	208	31.2	106	213	30	109
Owen Sound	225	32.3	114	229	30.5	117
Pagwa River	216	28.9	108	220	27.6	110
Parry Is.	194	5.4	91	198	5.3	92
Parry Sound	227	31.2	115	231	29.4	117
Pembroke	232	29.5	116	237	27.6	119
Penetanguishene	227	31.7	115	231	29.9	118
Perth	234	29.8	118	238	27.9	120
Petawawa	232	29.5	116	236	27.6	119
Peterborough	230	31.3	117	234	29.4	119
Pickle Crow	205	28.9	103	209	27.8	106
Picton	232	31	118	237	29	120
Port Nelson	200	23.7	99	204	22.9	102
Port Stanley	224	34.1	116	229	32.3	119
Ramore	226	28.6	112	230	27	115
Red Lake	196	30.2	101	201	29.3	104
Renfrew	233	29.6	117	237	27.6	119
Richmond Hill	228	32.2	116	232	30.3	119
Sand Lake	217	30.8	110	222	29.4	112
Sarnia	222	34.4	115	227	32.6	118
Sault Ste Marie	217	31.9	111	222	30.4	113
Savant Lake	203	30.2	104	208	29.1	106
Schreiber	211	30.8	107	215	29.5	110
Simcoe	226	33.6	116	231	31.6	119
Sioux Lookout	200	30.7	103	205	29.7	106
Smiths Falls	234	29.7	118	239	27.7	120
Steep Rock Lake	201	32	103	206	30.9	106
St. Catharines	228	32.8	117	233	30.8	120
St. Thomas	224	34	116	229	32.2	119
Stokes Bay	224	32.2	114	228	30.4	117
Stratford	225	33.4	115	229	31.5	118
Sturgeon Falls	227	30.3	114	231	28.5	117
Sudbury	225	30.6	113	229	28.9	116
Sultan	221	30.3	111	225	28.8	114
Swastika	227	28.8	113	231	27.2	115
Tannin	202	31	104	207	29.9	106

Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Temiscaming	229	29.6	114	233	27.9	117
Thessalon	219	31.8	111	224	30.2	114
Thetford Mines	243	26.3	120	247	24.3	122
Thunder Bay	206	31.7	106	211	30.5	108
Timmins	224	29	111	228	27.4	114
Tionaga	222	29.6	111	227	28.1	114
Tobermory	223	32	113	228	30.3	116
Toronto	228	32.4	116	232	30.5	119
Trenton	232	31.1	117	236	29.2	120
Trout Creek	228	30.4	115	232	28.6	117
Wallaceburg	222	34.7	115	227	32.9	118
Waterloo	226	33.1	116	230	31.2	118
Welland	228	32.9	117	233	31	120
Whitby	229	32	117	233	30.1	119
Whitney	230	30.3	116	234	28.4	118
Windsor	221	35.3	115	225	33.5	118
Wingham	224	33.1	115	229	31.3	118
Winisk	217	23.9	105	222	22.8	107
Woodstock	225	33.5	116	230	31.6	119

### Manitoba

Brandon	182	32.4	96	187	31.9	99
Dauphin	181	31	96	186	30.5	99
Emerson	188	32.9	99	193	32.2	102
Flin Flon	177	27.3	94	182	26.9	97
Gimli	188	31.2	98	193	30.5	101
Grand Rapids	183	28.8	96	188	28.3	99
Gypsumville	185	30.2	97	189	29.6	100
Hodgson	187	30.6	98	192	30	101
Lynn Lake	179	25	94	183	24.7	97
Minnedosa	182	32	96	187	31.4	99
Morden	186	32.8	98	191	32.2	101
Portage la Prairie	185	32.1	98	190	31.4	101
Norway House	186	27.8	97	191	27.2	100
The Pas	178	28.3	94	183	27.9	97
Thompson	186	25.9	97	191	25.3	99
Winnipeg	188	32	99	193	31.3	102
York Factory	200	23.7	100	204	22.9	102

### Saskatchewan

Assiniboia	169	33.1	91	174	32.9	94
Beauval	165	27.1	90	169	27	93
Biggar	165	30.4	90	170	30.4	92
Estevan	175	33.5	94	180	33.1	97
Fond du Lac	164	22.6	90	168	22.6	92
Kamsack	177	30.8	94	182	30.4	97
La Ronge	169	27.1	91	174	26.9	94
Lloydminster	161	29.1	88	165	29.1	91
Maple Creek	162	32.7	88	167	32.8	91
Melfort	171	29.5	92	176	29.3	95
Moose Jaw	170	32.2	91	175	32	95
Nokomis	171	31	92	176	30.8	95
North Battleford	164	29.7	89	169	29.6	92
Regina	172	32.1	92	177	31.8	95
Rosetown	165	31	90	170	30.9	93
Rosthern	168	29.8	91	173	29.6	94
Saskatoon	167	30.3	91	172	30.2	94

Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Shaunavon	165	33	89	169	33	92
Sherridon	178	24.8	94	183	24.4	97
Stanley	170	26.4	92	175	26.2	94
Swift Current	166	32.4	90	170	32.3	93
Tisdale	173	29.5	93	177	29.2	95
Uranium City	161	22.4	89	165	22.4	91
Watrous	170	30.8	91	175	30.6	95
Weyburn	174	32.9	93	179	32.6	96
Wilkie	163	30	89	168	30	92
Yorkton	176	31.2	94	181	30.8	97

### Alberta

Athabasca	154	27.3	86	159	27.5	89
Banff	151	30.9	83	156	31.3	86
Bassano	157	31.6	86	162	31.8	89
Brooks	158	31.9	86	163	32	89
Calgary	154	31.2	85	159	31.4	88
Camrose	156	29.2	86	160	29.4	89
Cranbrook	151	32.7	83	156	33.1	86
Drumheller	156	30.9	86	161	31.1	89
Edmonton	154	28.6	86	159	28.8	88
Edson	149	28.2	83	154	28.6	86
Fort Chipewyan	156	23.2	88	161	23.2	90
Fort MacKay	156	24.8	87	160	24.9	90
Fort McMurray	157	25.3	87	161	25.4	90
Fort Vermilion	148	23.2	85	152	23.5	87
Grande Prairie	145	26.2	82	149	26.7	85
Hanna	158	30.8	86	162	30.9	89
Hines Creek	145	25.1	83	149	25.6	85
Jasper	147	28.7	82	151	29.2	85
Lac la Biche	156	27.4	87	161	27.5	89
Lacombe	154	29.7	85	159	30	88
Leduc	154	28.9	85	159	29.1	88
Lethbridge	156	32.8	85	161	33	89
McLennan	148	25.9	83	152	26.3	86
Meander River	145	22.4	84	149	22.7	86
Medicine Hat	160	32.5	87	165	32.6	90
Peace River	147	25.3	83	151	25.7	86
Red Deer	154	29.9	85	159	30.2	88
Stettler	156	29.9	86	161	30.1	89
Vegreville	157	28.7	87	161	28.9	89
Vegreville	157	28.7	87	161	28.9	89
Vermilion	159	29	87	164	29.1	90
Wetaskiwin	155	29.2	85	159	29.4	88

### British Columbia

Ashcroft	142	30.4	79	147	31.1	82
Atlin	125	18.7	75	129	19.7	77
Chemainus	139	31.7	76	144	32.5	79
Courtenay	137	30.6	75	142	31.5	78
Dawson Creek	142	25.4	81	147	26	84
Duncan	139	31.9	76	144	32.7	79
Esquimalt	140	32.2	76	145	33.1	79
Fort Grahame	136	23.9	79	141	24.6	81
Fort Nelson	138	21.9	81	142	22.5	83
Ft St. John	141	24.8	81	146	25.4	83

Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Hazelton	133	24.5	77	137	25.3	79
Hudson Hope	140	24.8	80	144	25.4	83
Kamloops	144	30.7	79	149	31.3	82
Kelowna	145	31.7	80	150	32.3	83
Kitimat	132	25.3	75	136	26.2	78
Ladysmith	139	31.6	76	144	32.5	79
Lillooet	141	30.3	78	146	31	81
McLeod Lake	139	25.7	79	143	26.4	82
Nanaimo	139	31.4	76	144	32.3	79
Nelson	149	32.4	82	154	32.9	85
New Westminster	140	31.6	77	145	32.4	80
Penticton	145	32	80	150	32.7	83
Port Alice	134	29.2	74	139	30.2	77
Port Renfrew	138	31.9	75	143	32.9	79
Prince George	139	26.8	79	144	27.5	82
Prince Rupert	130	24.7	74	134	25.7	77
Quesnel	140	27.8	79	145	28.5	82
Queen Charlotte Is	127	25.1	72	132	26.3	75
Revelstoke	147	30.7	81	152	31.2	84
Saanich	140	32.2	76	145	33.1	79
Sidney	140	32	76	145	32.9	79
Simoom Sound	135	29	75	139	30	78
Squamish	140	31	77	145	31.9	80
Stewart	130	23.1	75	134	24.1	78
Telegraph Creek	128	20.9	76	132	21.8	78
Trail	148	32.8	81	153	33.4	84
Vancouver Is.	136	30	75	141	30.9	78
Vancouver	140	31.5	77	145	32.4	80
Vernon	146	31.3	80	150	31.9	83
Victoria Beach	189	31	99	194	30.3	102
Victoria	140	32.3	76	145	33.1	79
Williams Lake	141	28.8	79	146	29.5	82

### Nunavut

Amadjuak	252	12.8	106	255	11.7	107
Arctic Bay	253	7.1	97	257	6.7	98
Bathurst Inlet	158	14.8	90	162	14.8	91
Bathurst Is.	211	5.4	92	215	5.2	93
Cambridge Bay	165	12.4	91	169	12.3	92
Cape Dyer	268	7.6	108	272	6.4	109
Cornwallis Is.	233	6.1	93	237	5.9	94
Devon Is.	261	5.4	96	265	5	97
Eskimo Point	197	19.8	97	201	19.3	99
Frobisher Bay	257	11.7	107	261	10.5	109
Gjoa Haven	198	12.5	94	202	12.2	96
Igloolik Is	247	10.3	100	251	9.6	101
Kangirsuk	251	15	110	255	13.7	111
Lake Harbour	254	12.8	108	258	11.6	109
Mackenzie King Is.	134	4	89	138	4	90
Padlei	190	19.3	96	194	18.8	98
Padloping Is	268	7.7	107	271	6.6	108
Pangnirtung	264	9.2	107	267	8	108
Pelly Bay	223	11.9	97	227	11.4	98
Qurlurtuuq	142	13.6	87	146	13.7	88
Rankin Inlet	205	17.8	98	209	17.2	100
Repulse Bay	228	13.4	99	232	12.7	100
Resolute	231	6.5	93	235	6.2	94

Town/City	Satellite 'A'			Satellite 'B'		
	Compass Azimuth	Dish Elevation	Dish Skew	Compass Azimuth	Dish Elevation	Dish Skew
Resolution Is.	259	12.2	110	263	10.9	112
Somerset Is.	226	8	94	230	7.7	95
Southampton Is.	230	14.9	101	234	14.2	102
Spence Bay	212	11.4	95	216	11	97
Tavani	200	18.9	97	204	18.3	99
Wager Bay	213	14.7	97	217	14.1	99
Whale Cove	201	18.3	97	206	17.8	99

## Northwest Territory

## Yukon Territory

## Canadian Arctic Islands